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TITLE: Display procedure of user interface screen for internet,
involves assigning priority to each divided portion of screen, based on which data are divided and transmitted to user interface terminal

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BASIC-ABSTRACT:

NOVELTY - The area of user interface screen is divided and priority attachment is performed to each divided portion. Based on the assigned priority, data are divided and transmitted to user interface terminal.

USE - For user interface screen used in internet.

ADVANTAGE - Since a user can start operation immediately when data is displayed in user interface screen, queuing time for operation is reduced and the

response and operativity of the system with respect to user are improved.

DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram explaining the flow of user interface screen display procedure. (Drawing includes non-English language text).

CHOSEN-DRAWING: Dwg.1/5

DERWENT-CLASS: T01

EPI-CODES: T01-C04; T01-J12B; T01-M02A1;

*** NOTICES ***

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The method of presentation of the user interface screen characterized by dividing and sending data based on priority so that priority attachment may be performed to the data which constitute a user interface function in the system which has constraint in the data transmission to the user interface represented by the system which gives its service on the Internet and the responsibility and operability to a user may be raised.

[Claim 2] The method of presentation of the user interface screen characterized by dividing and sending data based on priority so that the field of a user interface screen may be divided, priority attachment may be performed about the divided part in claim 1 and the responsibility and operability to a user may be raised.

[Claim 3] The method of presentation of the user interface screen characterized by dividing and sending data based on priority so that the multi-statement of that from which the amount of data differs when the definitions on a display etc. differ may be carried out, priority attachment may be performed although it has a similar function about actuation of a user about the component of a user interface screen, and the responsibility and operability to a user may be raised in claim 1 or 2.

[Claim 4] The method of presentation of the user interface screen characterized by

dividing and sending based on priority so that responsibility and operability may be raised. [as opposed to a user for the data which constitute the interface screen which is needed for the actuation after a user carries out in claim 1, 2, or 3 using the idle time of the processing accompanying initialization and user actuation of a system]

[Claim 5] The record medium characterized by recording the program which performs the method of presentation of a user interface screen according to claim 1, 2, 3, or 4, and changing.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the record medium which recorded the program which performs the method of presentation and the method of presentation of the user interface screen in the system which has constraint in the data transmission to the user interface represented by the system which gives its service on the Internet.

[0002]

[Description of the Prior Art] In the system which has constraint in the data transmission to the user interface represented by the system which gives its service on the Internet, there are data compression techniques, such as JPEG in transmission of image data, as a technique for shortening the latency time until a user can start actuation. Moreover, although it differs from actual time amount compaction, as an approach of soliciting to a user's sensation over the latency time while loading data, the anticipation time amount to

load termination may be displayed, or an interlace display, stream distribution, etc. of an image may be performed. In addition, there is a method of recording the mass data which time amount requires for a data load on a record medium, and distributing them to the user in advance.

[0003]

[Problem(s) to be Solved by the Invention] When the latency time until a user can start actuation in the case of a system startup has this case several minutes or more, and close actuation of a system, without the ability of a user being able to bear or there is connection time based accounting about time amount to data transmission, in the system which has constraint in the data transmission to the user interface represented by the system which gives its service on the Internet, a costs burden may force upon a user also about the time amount equivalent to the latency time which cannot use. Therefore, although use a data compression technique or display the anticipation latency time, or the graphics format for an interlace display will be used if it is an image, or the cure of recording data on the record medium and distributing them in advance is performed it is difficult to deal with many and unspecified users about the responsibility and operability to a user by the approach which is not enough in many cases and is distributed in advance, and also the response over renewal of an interface is difficult -- etc. -- there is a problem.

[0004]

[Means for Solving the Problem] In order to solve the above problems in invention of claim 1 Priority attachment is performed to the data which constitute a user interface function supposing the flow of the actuation from a user's demand [to operating

procedure or a system operation] and system side etc. By dividing data based on priority, showing a user one by one from the high user interface function of delivery and priority, and supposing at a user side that it is operational The latency time until the user in the time of a system startup and modification of the content of a user interface becomes operational is shortened, and the system response nature and operability to a user are raised.

[0005] In invention of claim 2, the field of a user interface screen is divided in invention of claim 1. It is characterized by performing priority attachment which assumed the flow of the actuation from an as opposed to operating procedure [of a user] or system operation for user interface function which the screen area's offers demand side, and a system side etc. about the divided part. Thus, by dividing the data which constitute a user interface function based on the defined priority, and sending to a user side, the latency time until a user becomes operational is shortened, and the system response nature and operability to a user are raised.

[0006] In invention of claim 3, it sets to invention according to claim 1 or 2. About the component of a user interface screen The multi-statement of that from which the amount of data differs when the definitions on a screen display etc. differ, although it has a similar function about actuation of a user is carried out. It is characterized by performing that each attachment of priority supposing the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. thus -- while selecting based on priority based on the defined priority from two or more candidates about each component of a user interface screen -- case it is possible -- difference -- by changing into information and sending to a user side one by one The system response

nature and operability to a user are raised by displaying a user interface screen with the sufficient balance of operability including the definition on a screen display, i.e., the informational abundance and responsibility which accompany the actuation with which a user is provided.

[0007] In invention of claim 4, it sets to invention according to claim 1, 2, or 3. It not only sends the data which constitute the user interface screen which the user needs at present, but Based on priority attachment beforehand set up about the data which a user needs after that supposing the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. Using a system load in the process of processing, idle time of the transmission line, etc. accompanying initialization and user actuation of a system, if possible, it will precede and will be characterized by sending, and the latency time at the time of a user operating it is shortened, and the system response nature and operability to a user are raised.

[0008] Invention of claim 5 is set to invention according to claim 1, 2, 3, or 4. Priority attachment is performed to the data which constitute a user interface function supposing the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. It is the record medium characterized by recording the computer processing program incorporating the procedure for dividing data based on priority, showing a user one by one from the high user interface function of delivery and priority at a user side, and supposing that it is operational, and changing. By combining with the computer of the arbitration which can read and execute the program currently recorded on the record medium It can apply, when sending the user interface screen in various applications to a user side, and it becomes possible to raise the system response

nature to a user, and operability.

[0009]

[Embodiment of the Invention] Hereafter, an operation gestalt explains this invention.

Drawing 2 shows the example of the operation gestalt of the method of presentation of the user interface screen of this invention. Priority attachment is performed to the data which constitute a user interface function. Data are divided based on priority. The program currently recorded on the floppy disk 1 which is the record medium which recorded the processing program for sending to a user side and displaying a user interface screen on a user side, and the record medium is read. As an example of the computer 2 which can be performed, and a data transmission means The user side computer 4 which performs processing for providing a user with a user interface function using the data of the ** Internet 3 and a user interface screen, the display 5 which displays a user interface screen, and a user receive a user interface screen. It consists of mice 6 for operating it.

[0010] As an example of a user interface screen, a user displays a graphic form image on an image display, and drawing 3 shows typically the example of a screen in the case of using it by the system which performs acquisition of related information, and various edit processing actuation. the inside of drawing, and 11 -- for a migration control unit and 14, as for an information image display and 16, a text display and 15 are [an image display and 12 / a menu display and 13 / a candidate display and 17] the selection sections.

[0011] Drawing 4 is the mimetic diagram having shown the condition of having divided the field of the interface screen in this invention, having performed priority attachment about each of that divided part, and displaying delivery and a user interface screen for data one by one according to priority in the case of the display of the user interface screen

shown by drawing 3 , and it is operational by the user in the element of each [of time amount and the flow of actuation] user interface function which the user is shown at the event. In this example, the image display 11 and the menu display 12 which displayed the graphic form image are displayed first, next the migration control unit 13, the text display 14, and the selection section 17 are displayed, and, finally the information image display 15 and the candidate display 16 are displayed.

[0012] Drawing 5 carries out the multi-statement of that from which the amount of data differs corresponding to a definition although it has a similar function about the component of the user interface screen of this invention, and performs priority attachment. It is the mimetic diagram having shown the condition of having sent data one by one according to priority, and displaying the user interface screen. In this example, about elements, such as the migration control unit 13, and the information image display 15, the candidate display 16 The expression with little amount of data according to text considering that from which amount of information and the amount of data differ although the function about actuation of a user is similar as order, Data are sent and displayed one by one as two or more data of the expression by the notation or the symbol, and the expression near a actual image. It is shown that it can be operated while a user can start actuation in the phase where the first screen was displayed and acquires detailed information with time amount and the flow of actuation further. For example, about the candidate display 16, the expression near [in the expression by the text of "Candidate A", "Candidate B", and "Candidate C" and the next phase] an image actual in the expression by notations and symbols, such as a "round head", a "star", and "x", and the last phase is indicated by sequential in the first phase.

[0013] Drawing 1 is the mimetic diagram having shown the flow of the processing for improving the responsibility and operability to a user by performing priority attachment to the data which constitute the user interface function of this invention, and dividing and sending data based on priority. The right-hand side in drawing shows the flow of processing of a user interface screen data source, and left-hand side shows the flow of processing by the side of a user.

[0014] Drawing 1 is explained for the flow of the method of presentation of the user interface screen of this invention as an example. The components data for realizing the screen element as the user interface function which is needed when a user uses a system, and its actual interface About each components data which prepare based on the specification of the system concerned and constitute those user interfaces By analysis supposing the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. Priority attachment is performed so that the latency time in connection with the display of the screen element at the time of a user operating it in consideration of the processing time and the data transmission rate which are required in order to constitute and display a actual screen element from the amount of data and data of each part article data may become short. It is [that what is necessary is just to perform it before priority attachment transmits each components data to a user side actually] also possible to change the priority about non-transmitted data at any time, collecting and analyzing the information on the flow of actuation, such as a real user's menu selection, etc. on real time. In the step in the flow which starts and uses a system, required conversion, such as division, compression, etc. of data which took out data as preparation for transmitting ejection and data based on priority out of non-transmitted

data, is performed, and data transmission is performed to a user side one by one.

[0015] In a user side, the user interface function equivalent to the components data which performed processing for displaying on a display unit etc. actually based on the sent components data, and have been sent to a user is offered. A user can operate it at any time using the displayed screen element, and since it becomes possible to start actuation in the phase where the simplification version of some [which constitutes a user interface screen] elements, or the element of those was displayed, the latency time for actuation becomes short. The processing about transmitting preparation of division of data, customize of data required for the display by the user side, etc. ***** [just before the event of performing priority attachment, or data transmission] the event of classifying components data first in order for what is necessary to be just to carry out by the time it actually performs data transmission in the phase of data division and transmitting preparation the difference in the data by which priority attachment was carried out -- analyzing -- difference -- the amount of the data which should be transmitted by creating information is also reducible.

[0016] By analysis which assumed the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. about priority attachment of the components data which constitute a user interface from an above-mentioned operation gestalt Although priority attachment is performed so that the latency time in connection with the display of the screen element at the time of a user operating it in consideration of the processing time and the data transmission rate which are required in order to constitute and display a actual screen element from the amount of data and data of each part article data may become short It doubles not only with a comparison

simple as the analytic technique but with the target user interface function and the design of a screen. The approaches of optimizing by making the comparative analysis of the description of data, such as the approach of statistical analyses generally learned, and fuzzy reasoning, a neural network, an expert system, can be used. Moreover, although the above-mentioned operation gestalt showed the case where a data source was connected by the Internet a user side as an example of the system which has constraint in data transmission, when processings, such as it being the same and having a low speed bus also with various connection methods, such as serial interface, are low speed computer systems, also in the case of the data transmission within single hardware, it can use.

[0017] Although the floppy disk was furthermore used with the above-mentioned operation gestalt as a record medium, various record media used for storage of a computer program, such as other magnetic disks, a magnetic tape, CD-ROM, and semiconductor memory, can be used.

[0018]

[Effect of the Invention] Invention of claim 1 to the data which constitute a user interface function Priority attachment is performed supposing the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. By dividing data based on priority, showing a user one by one from the high user interface function of delivery and priority, and supposing at a user side that it is operational Since a user becomes possible [starting actuation immediately in the phase where the partial element which constitutes a user interface screen was displayed], The latency time for actuation can be shortened and it is effective in the ability to improve the system response nature and operability to a user in the system which has constraint in data transmission.

[0019] The field of a user interface screen is divided in invention of claim 2. About the divided part Priority attachment supposing the flow of the actuation from an as opposed to operating procedure [of a user] or system operation for user interface function which the screen area's offers demand side, and a system side etc. is performed. By dividing data based on priority, showing a user one by one from the high user interface function of delivery and priority, and supposing at a user side that it is operational It is effective in the ability to improve the system response nature and operability to a user in the system which has constraint in data transmission.

[0020] The multi-statement of that from which the amount of data differs when the definitions on a screen display etc. differ in invention of claim 3, although it has a similar function about actuation of a user about the component of a user interface screen is carried out. That each attachment of priority is performed supposing the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. while selecting based on priority from the candidates who have the function of two or more resemblances about each component -- case it is possible -- difference -- by changing into information and sending to a user side one by one By displaying a user interface screen with the sufficient balance of the informational abundance and responsibility which accompany the actuation with which it provides, operability, i.e., a user, including the definition on a screen display It is effective in the ability to improve the system response nature and operability to a user in the system which has constraint in data transmission.

[0021] In invention of claim 4, it not only sends the data which constitute the user interface screen which the user needs from this time in the flow which operates a system,

but About the data which constitute the interface function which a user needs from subsequent actuation Based on priority attachment beforehand set up supposing the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. By preceding and sending data using a system load in the process of processing, idle time of the transmission line, etc. accompanying initialization and user actuation of a system, if possible It is effective in the ability to improve the system response nature and operability to a user in the system which has constraint in data transmission.

[0022] Priority attachment is performed to the data which constitute a user interface function from invention of claim 5 supposing the flow of the actuation from a user's demand [to operating procedure or a system operation] and system side etc. By dividing data based on priority and using the record medium which recorded the computer processing program incorporating the procedure for showing a user one by one from the high user interface function of delivery and priority, and supposing at a user side that it is operational It can apply, when sending the user interface screen in various applications to a user side combining the computer of the arbitration which can carry out reading appearance of the program recorded on the record medium, and can execute it. It is effective in the ability to improve the system response nature and operability to a user in the system which has constraint in data transmission.

DRAWINGS

* NOTICES *

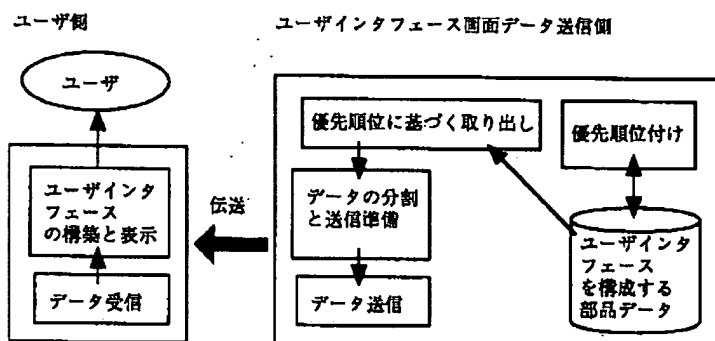
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DRAWINGS

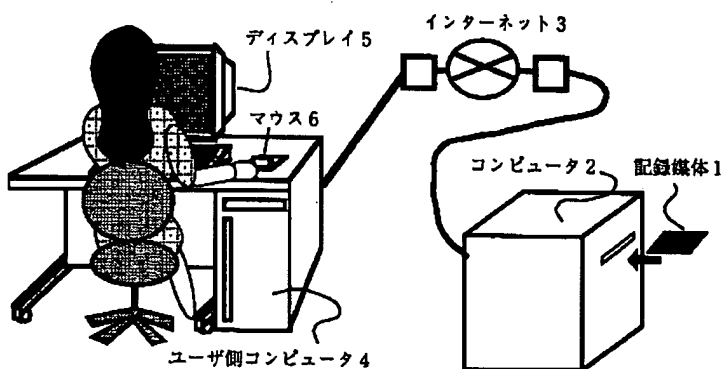
[Drawing 1]

ユーザインタフェース画面データ送信の流れの模式図



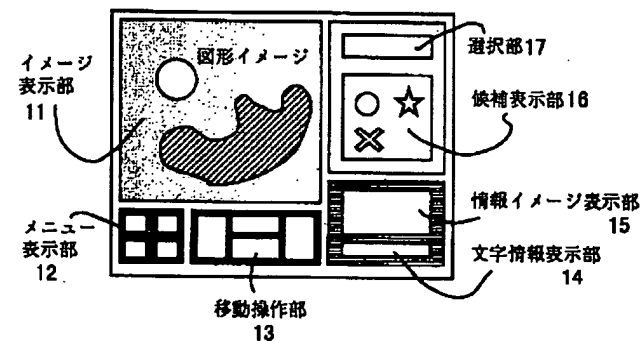
[Drawing 2]

ユーザインタフェース画面表示を行うシステムの構成図



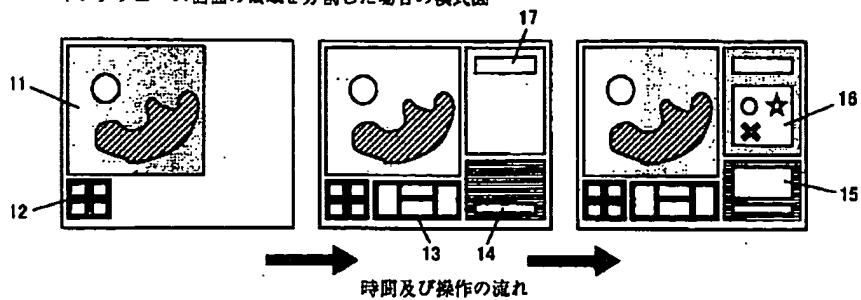
[Drawing 3]

ユーザインタフェース画面の例



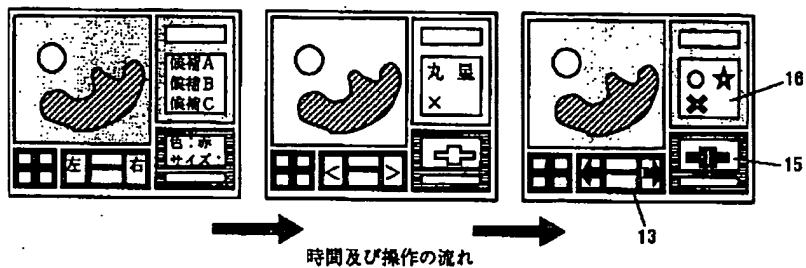
[Drawing 4]

インタフェース画面の領域を分割した場合の模式図



[Drawing 5]

インタフェース画面の類似機能を複数設定して分割した場合の模式図



[Translation done.]

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(54) 【発明の名称】 ユーザインタフェース画面の表示方法

(57) 【要約】

【課題】データ伝送に制約のあるシステムにおいてユーザに対するシステムの応答性や操作性を向上させる。

【解決手段】ユーザインタフェース機能を構成するデータに優先順位付けを行う。例えば、ユーザインタフェース画面の領域を分割し、その分割した部分について優先順位付けを行う。あるいは、ユーザインタフェース画面の構成要素について、ユーザの操作に関しては類似の機能を有するが表示上の精細度などが異なることによりデータ量の異なるものを複数設定して優先順位付けを行う。そのうえでユーザに対する応答性や操作性を向上させるように優先順位に基づいてデータを分割して送る。

